

Office Action Summary

Application No.

10/594,105

Applicant(s)

PINNEY ET AL.

Examiner

Erich A. Leeser

Art Unit

1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 5-10, 15-20, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 11-14, 21 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/02)
Paper No(s)/Mail Date 9-21-07 and 2-12-07.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 6-29-09.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to Applicant's May 18, 2009 submission.

Information Disclosure Statement

The references contained in the IDS dated September 21, 2007 and February 12, 2007, are made of record.

Election/Restriction

In a telephone conversation dated June 29, 2009, Applicant elected the invention of Group II. Examiner has reviewed the election with traverse of Group I dated May 18, 2009, and the arguments asserting that Groups I, III, and IV should be combined, but these arguments are no longer relevant with Applicant's change of election to Group II. The entire scope of the elected Group was searched by Examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claims 4, 11-14, 21, and 24 are examined. Claims 1-3, 5-10, 15-20, and 22-23, the remaining subject matter being drawn to the non-elected invention are withdrawn per 37 CFR 1.142(b).

Claim Rejections - 35 USC § 102

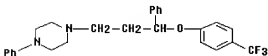
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 11, and 13 are rejected under 35 USC 102(b) as being anticipated by Jakobsen, et al., EP 576766. Jakobsen, et al. teaches the preparation of (hetero)arylpropanolamine derivatives as cerebral calcium overload blockers, which include instant compounds. Specifically, the compound 1-phenyl-4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-ethanedioate piperazine with the following structure:

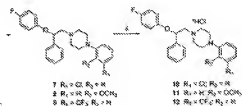


of the

reference anticipates the aforementioned claims where A is N, Ar is unsubstituted, n is 1, and X is CF₃.

The references compounds exhibit the same activity as the compounds of the instant claims. Therefore, the instant claims 4, 11, and 13 are anticipated by Jakobsen, et al., EP 576766.

Claims 4, 12, and 14, 21, and 24 are rejected under 35 USC 102(a) as being anticipated by Dorsey, et al., *Synthesis and Biological Evaluation of 2-(4-fluorophenoxy)-2-phenyl-ethyl Piperazines as Serotonin-selective Reuptake Inhibitors with a Potentially Improved Adverse Reaction Profile*, Bioorganic & Med. Chem., 12, 1483-91 (2004). An Internet search indicates that this reference published on March 15, 2004. Dorsey, et al. teaches 2-(4-fluorophenoxy)-2-phenyl-ethyl piperazines,



which include instant compounds. Specifically, the compounds

of

the reference anticipates the aforementioned claims where A is N, Ar is substituted with chloro, methoxy or CF₃, n is 0, and X is fluoro. The references compounds exhibit the same activity as the compounds of the instant claims. Therefore, the instant claims 4, 12, and 14, 21, and 24 are anticipated by Dorsey, et al.

Claim Rejections - 35 USC § 103

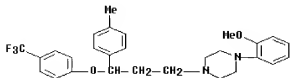
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103 that form the basis for the rejections under this section made in this Office action:

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
2. Claims 4, 14, 21 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oficialdegui, et al., *Design, Synthesis and Biological Evaluation of New 3-[(4-aryl)piperazin- 1-yl]-1-arylpropane Derivatives as Potential Antidepressants with a Dual Mode of Action; Serotonin Reuptake Inhibition and 5-HT1A Receptor Antagonism*, *Farmaco* 55(5), 345-353 (2000).

Determining the scope and contents of the prior art.

Oficialdegui, et al. teaches 3-[(4-aryl)piperazin- 1-yl]-1-arylpropane derivatives. Specifically, the compound 1-(2-methoxyphenyl)-4-[3-(4-methylphenyl)-3-[4-(trifluoromethyl)phenoxy]propyl]-piperazine,



renders obvious the aforementioned claims where A is N, Ar is substituted with methoxy, n is 1, and X is CF₃.

Ascertaining the difference between the prior art and the claims at issue.

The only difference between the compounds of the reference and the instant compounds is the instant compounds lack the methylated phenyl of the compound of the reference. However, it is well-established that the substitution of methyl for hydrogen on a known compound is not a patentable modification absent unexpected or unobvious results. *In re Wood*, 199 USPQ 137 (CCPA 1978) and *In re Lohr*, 137 USPQ 548, 549 (CCPA 1963). The motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity.

Resolving the level of skill in the art.

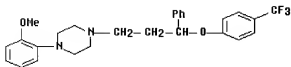
It would have required little more than routine modification of the synthesis of cited compound by one having ordinary skill in this art at the time the invention was made to prepare a compound within the scope of the compounds instantly claimed as Applicant has done with the above-cited reference before them. The variants show the interchangeability of the overlapping substituents.

3. Claims 4 and 11-14, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martinez-Esparza, et al., *New 1-aryl-3-(4-aryl)piperazin-1-yl)propane derivatives, with dual*

action at 5-HT1A serotonin receptors and serotonin transporter, as a new class of antidepressants, Journal of Medicinal Chemistry 44(3), 418-428 (2001).

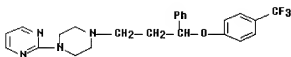
4. **Determining the scope and contents of the prior art.**

Martinez-Esparza, et al. teaches 1-aryl-3-(4-aryl)piperazin-1-yl)propane derivatives. Specifically, the compound 1-(2-methoxyphenyl)-4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-piperazine hydrochloride with the following structure:



●2 HCl

which renders obvious the aforementioned claims where A is N, Ar is substituted with methoxy, n is 1, and X is CF₃. This reference also contains the compound 2-[4-[3-phenyl-3-[4-(trifluoromethyl)phenoxy]propyl]-1-piperazinyl]-pyrimidine with the following structure:



which renders obvious the aforementioned claims where A is N, Ar is pyrimidine, n is 1, and X is CF₃.

Ascertaining the difference between the prior art and the claims at issue.

The only difference between these cited compound of the reference and a compound found in claim 12 and another in claim 14 is the number of carbons in the alkylene linker. To those skilled in the chemical art, however, one homologue is not such an advance over adjacent member of series as requires invention because chemists knowing properties of one member of series would in general know what to expect in adjacent members. *In re Henze*, 85 USPQ 261

(1950). The instant claimed compounds would have been obvious, because one skilled in the art would have been motivated to prepare homologs of the compound taught in the reference with the expectation of obtaining compounds which could be used in serotonin reuptake inhibitor compositions. Therefore, the instant claimed compounds would have been suggested to one skilled in the art.

Resolving the level of skill in the art.

It would have required little more than routine modification of the synthesis of cited compound by one having ordinary skill in this art at the time the invention was made to prepare a compound within the scope of the compounds instantly claimed as Applicant has done with the above-cited reference before them. The variants show the interchangeability of the overlapping substituents.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Erich A. Leaser whose telephone number is 571-272-9932. The Examiner can normally be reached Monday through Friday from 8:30 to 6:00 EST.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. James O. Wilson can be reached at 571-272-0661. The fax number for the organization where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197. If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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